EAB

Cognitively Guided Instruction

District Leadership Forum

District Leadership Forum

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1) Executive Overview

Key Observations

Academic research and contacts at profiled districts suggest that cognitively guided instruction (CGI) increases mathematical understanding for both teachers and students. Studies indicate that CGI improves student test scores, especially in areas that require the application of advanced problem-solving strategies. Additionally, contacts at all profiled districts report that CGI improves student and teacher attitudes toward math.

Conduct regular training sessions to sustain quality mathematical instruction with CGI. Contacts at all profiled districts emphasize the importance of providing continual professional development opportunities to teachers. Contacts report that without regular trainings, quality of instruction can stagnate and even begin to deteriorate as teachers revert to direct instruction, which requires less effort. Further, contacts at **District B** note that teachers do not possess the knowledge and experience to make strategic instructional choices until they receive three years of CGI training, which emphasizes the importance of continual professional development.

Employ CGI coaches to provide in-classroom support and training to teachers. At all profiled districts, individual or small groups of teachers can request the assistance of a CGI coach. At some profiled districts, the elementary math director provides coaching, and other profiled districts hire CGI coaches. These coaches can demonstrate lessons, co-teach, observe, or assist teachers with planning lessons. At **District D**, coaches work with the same teacher across several days or weeks to help the teacher understand CGI's iterative process. The individualized attention and support coaches provide improves teachers' understanding of the instructional framework.

Contacts report that teachers can overcome common challenges instructing certain topics (e.g., fact fluency, telling time) with CGI. Contacts at **District A, District B**, **District D**, and **District E** note that because CGI focuses on student knowledge and adapts to student thinking, teachers can incorporate any math problem into the instructional framework. Additionally, CGI problem-solving activities organically incorporate fact fluency. As teachers present problems to the class, students learn both strategies to solve the problem (e.g., addition) and facts in the problem (e.g., 2+2=4).

2) Outcomes and Benefits

Students

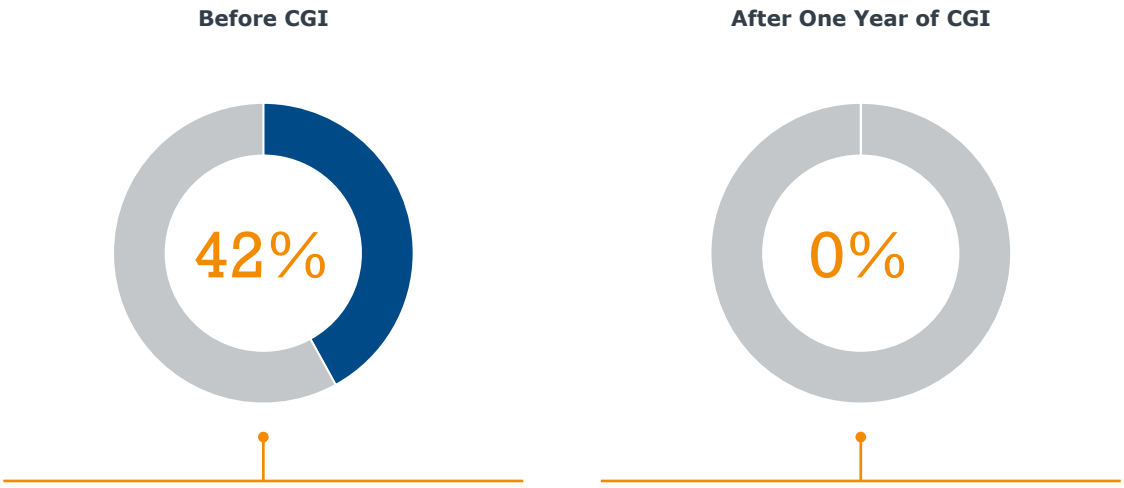
CGI Improves Students' Attitudes Toward Math at Profiled Districts

Contacts at all profiled districts report that they noticed students' relationships with math improved after the district began to use CGI. Specifically, contacts at **District E** note students do not passively receive knowledge in their math classes but instead engage with solving problems. Additionally, students exhibit increased confidence when confronted with unfamiliar problems.

An elementary teacher at **District D** surveyed students about their attitudes toward math at the beginning of the year, before they began using CGI. The teacher surveyed the class again after one school year of using CGI to teach math. The results of the surveys display that CGI reduced students' fear of math.

Percentage of Students Afraid of Math

*In one **District D** elementary class*



Over 40 percent of surveyed students 'agreed' or 'strongly agreed' with the statement "I am afraid of math."

All surveyed students either 'disagreed' or 'strongly disagreed' with the statement "I am afraid of math."

CGI Increases Test Scores and Improves Students' Understanding of Math

Studies find that students instructed with CGI perform significantly better than their peers on tests that assess knowledge of mathematical skills, especially in areas related to problem solving.[1] Research also shows that students taught with CGI use more advanced strategies to solve math problems when compared to their peers, indicating a greater understanding of mathematical principals.[2]

Contacts at all profiled districts except for **District B** report gains in standardized test scores after the implementation of CGI. At District B, contacts note that while they would still like to see additional gains in the district's overall standardized test scores,

1) Nesrin Sahin, "The Effect of Cognitively Guided Instruction on Students' Problem Solving Strategies and The Effect of Students' Use of Strategies on their Mathematics Achievement," *Electronic Theses and Dissertations*. http://stars.library.ucf.edu/etd/1303.
2) Ibid.

since the implementation of CGI, students have scored significantly better on the fractions portion of tests. Contacts report that improvement in this subject area may be because teachers' discomfort teaching fractions compels them to use CGI to teach the topic. In addition to higher test scores, contacts at **District E** also report that teachers saw decreases in instances of students losing knowledge over summer break after they began using CGI. Contacts note that this increased retention of knowledge greatly impressed teachers at the district.

Teachers

CGI Increases Teachers' Confidence and Comfort Teaching Math

Research shows that CGI increases teachers' confidence in math instruction abilities. A study conducted among teachers in Scotland found that CGI increases teachers' awareness of their own mathematical learning and furthers their ability to support all learners in the classroom.[3]

Contacts at **District B**, **District D** and **District E** report that CGI increased teachers' confidence instructing mathematics. Contacts at District E note that prior to CGI implementation, elementary teachers enjoyed teaching reading much more than they enjoyed teaching math. However, contacts state that the teachers who currently use CGI relish teaching math and consider it a favorite subject. Contacts attribute this change in attitude to CGI's focus on strengths-based instruction. The strengths-based approach makes learning math a collaborative process, rather than a subject where teachers must lead even when they may not be comfortable with their own knowledge.

CGI Principles Positively Impact instruction in Classes other than Mathematics

Contacts at all profiled districts report that teachers apply the principles and philosophy of CGI when they instruct other subjects, including reading and science. Specifically, they report that the CGI's emphasis on listening to students and its strengths rather than deficits in knowledge positively influences teachers. Contacts at **District B** report that teachers easily adapted to new science standards and a new Balanced Literacy English curriculum because of their experience with CGI, as the principles of CGI directly translated into the requirements of these new curricula.

3) Elizabeth Fennema et al., "A Longitudinal Study of Learning to Use Children's Thinking in Mathematics Instruction," *Journal for Research in Mathematics Education* 27, no. 4 (1996): 403–34, https://doi.org/10.2307/749875; Lio Moscardini, "Developing Equitable Elementary Mathematics Classrooms through Teachers Learning about Children's Mathematical Thinking: Cognitively Guided Instruction as an Inclusive Pedagogy," *Teaching and Teacher Education* 43 (October 1, 2014): 69–79, https://doi.org/10.1016/j.tate.2014.06.003.

3) Implementation and Initial Training

Philosophy of CGI

Contacts at Profiled Districts View CGI as Either a Teaching Tool or as an Educational Philosophy

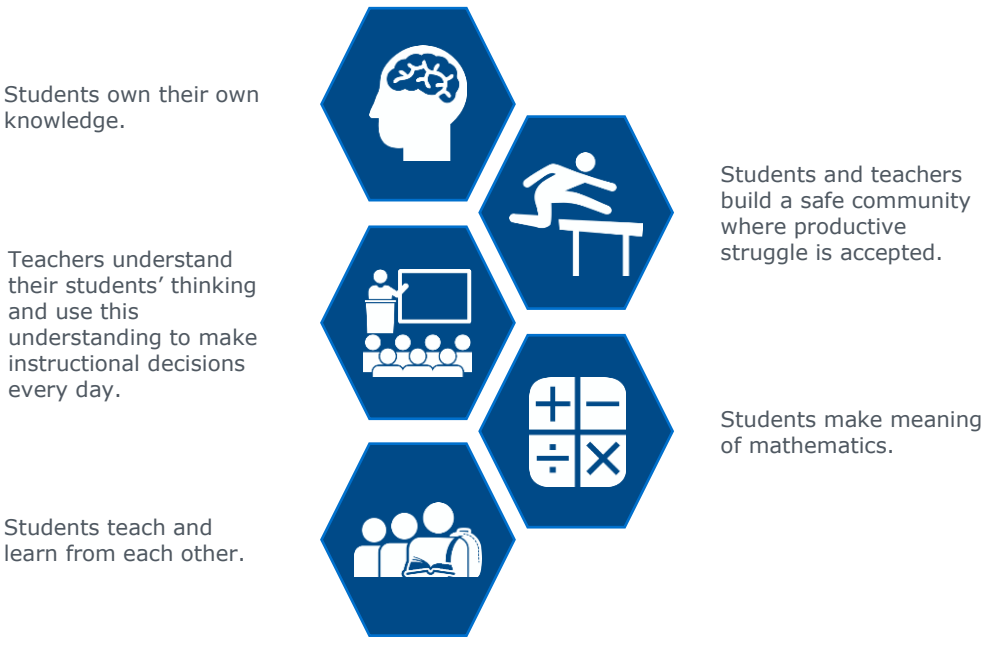
Contacts at profiled districts express different perceptions of CGI and its role in mathematical instruction. While these different views of CGI are more philosophical than practical, they can affect how teachers perceive CGI and how they approach the instructional framework.

Contacts at **District C** state that CGI is a teaching tool. They add that it is a common misconception that CGI can be used to teach students everything. Instead, contacts believe that CGI is a tool to teach numbers and concepts or algebraic thinking. To teach topics such as geometry and telling time, teachers need to use other resources (e.g., Georgia Units).

In contrast, contacts at **District B**, **District D**, and **District A** state that CGI is an educational philosophy based on adaption to student thinking and student strengths. Contacts at these districts believe that students can view any problem through the lens of CGI, because the framework does not provide strategies specific to problems (e.g., number talks, word problems).

Last year, teachers at District B attended a professional development day, where they expressed what CGI means to them.

Definitions of CGI at *District B*



Profiled Districts Began to Use CGI to Address New Standards and Improve Instruction

Contacts at profiled districts note that the introduction of Common Core standards influenced the district's decision to implement CGI. CGI focuses on how to create lessons that align student knowledge with standards. Thus, it helps teachers easily adapt to new standards, such as Common Core. Additionally, contacts report that the experiences of teachers, principals, and administrators who had previous exposure to CGI influenced the district's efforts to implement CGI. These individuals with CGI experience provided information on the positive effects of this framework and encouraged the district to adopt CGI.

Implementation

Several Profiled Districts Implemented CGI with the Assistance of Educational Researchers or Consultants

District A, **District B**, and **District D** partnered with local universities or worked with consultants to implement CGI. At District A, contacts hired consultant Linda Levi.[4] With Levi's help, math leaders at the district worked for three years to develop lesson plans to assist teachers with CGI. District A also employed local graduate students to help them implement these lesson plans in classrooms. Additionally, District A partnered with professors at a local university to create an initial three-year implementation plan.

Administrators at District B and District D both partnered with a local university when they began to implement CGI. The university provided trainers to attend professional development days during the summer. These trainers provided a basic model of professional development that the district could expand for future trainings. After the initial few years of trainings from the university, trainers employed by the district conducted trainings for other teachers in the district.

Content of Local University CGI Trainings

- Basic principles of CGI
- Multiple ways students might approach problems
- Specific methods to teach different topics (e.g., number counting)

Three Profiled Districts Emphasize Total Adoption of CGI, and Two Profiled Districts Encourage CGI But Allow Other Frameworks

Three profiled districts, **District A**, **District B**, and **District D**, implemented CGI as the main method of mathematical instruction across the district. However, **District C** and **District E** do not require teachers to teach math under a CGI framework. Administrators at these districts provide CGI coaching and encourage teachers to use the framework but allow them to determine whether they use the framework. At some schools within these districts, however, principals require all teachers at their school to use a CGI framework.

4) Levi, along with Thomas Carpenter, Elizabeth Fennema, Megan Franke, and Susan Empson, created CGI based on their research.

CGI Adoption at Profiled Districts

CGI as Main Method of Instruction

District A

Started 2011

The district uses Investigations curriculum to supplement CGI problem-solving. Contacts report that teachers deliver that curriculum with CGI.

District B

Started 2011

The district uses a supplementary textbook, but contacts report that teachers do not teach with it. CGI is the main framework for all mathematics instruction.

District D

Started 2013

While most teachers use CGI, a few have refused to receive the required training. Contacts at the district refer to CGI as the "vehicle" to teach state mathematics standards.

The district provides teachers with multiple supplemental resources, including textbooks, Eureka Math, and Georgia Units.

CGI as a Potential Method of Instruction

District C

Started 2005

CGI is optional for teachers, and groups of teachers have opted to use it. At one school, every teacher uses CGI.

The district adopted a textbook and embeds Investigations TERC and Georgia Units into the curriculum.

District E

Started 2015

CGI is optional for teachers but is strongly encouraged at one school and in use among small groups of teachers at other schools throughout the district.

The district uses Eureka and Bridges as the designated curricula.

Consider Implementing CGI Gradually to Reduce Teacher Pushback

When district administrators at **District D** decided to implement CGI district-wide, they asked teachers to incorporate one CGI routine[5] into their instruction. As teachers mastered teaching concepts with that routine, they received further training on how to use additional CGI routines. The trainers gradually increased the number of

5) A routine is an activity designed to help students understand a concept in CGI, (e.g. number talks).

routines they expected teachers to use in the classroom until CGI became the main method of instruction.

Contacts report that the gradual implementation reduced teacher pushback and confusion, because the process allowed teachers to see the efficacy of each CGI routine before introducing a new one into the classroom. Contacts at District D recommend other districts start CGI implementation by focusing on a number talk or number practice routine, as these are popular among teachers and easy to implement in the classroom.

4) Sustaining and Troubleshooting CGI

Staffing

Profiled Districts Employ Between One and Ten CGI-Focused Team Members

All CGI coaches at profiled districts are former teachers. The districts hired some from previous external positions as CGI coaches and others were teachers promoted directly by the district due to their mastery of CGI.

To sustain high quality CGI instruction, all three profiled districts that implemented CGI district-wide maintain some full-time staff who dedicate most of their time to CGI. Districts require these staff to provide teachers with the necessary training and professional development to use CGI. At **District C** and **District E**, elementary math directors and other mathematics personnel assist teachers with CGI alongside their work with other frameworks for mathematical instruction.

Profiled districts divide staff responsibilities differently. Some personnel focus on training, some on coaching, some support CGI full-time (FT), and some support CGI part-time (PT). These models for CGI staffing address how districts support CGI alongside their other priorities.

Mathematics Personnel and Time Devoted to CGI at Profiled Districts

District A

Director of Curriculum and Instruction (FT):
- Provides CGI trainings
- Coaches teachers
- Trains CGI apprentices

1 Classroom Trainer (PT):
- Regular classroom teacher
- CGI trainer 10 to 15 percent of the time
- Coaches teachers

8 CGI Apprentices (PT):
- Classroom teachers with additional training
- Coaches teachers

District B

Elementary Math Director (FT):
- Provides CGI trainings

2 CGI Coaches (FT):
- Coaches teachers

District C

Elementary Math Director (PT):
- Provides CGI trainings
- Coaches teachers
- Supports other math initiatives because CGI is not mandated

6 CGI State Trainers (PT):
- Classroom teachers who received training
- Coaches teachers

Math Facilitators (PT):
- Assists with general math instruction
- Can support teachers using CGI

District D

Elementary Math Director (FT):
- Provides CGI trainings
- Coaches teachers

District E

Elementary Math Director (PT):
- Supports other math initiatives because CGI is not mandated
- Provides CGI trainings, if requested
- Conducts CGI book studies
- Coaches teachers when available

Ongoing Training

Offer Continual Training Opportunities to Encourage Growth and Sustain High Quality Instruction

Contacts at both **District B** and **District D** note the importance of providing regular professional development to maintain quality CGI instruction. Contacts at District B note that one-off trainings do not help teachers use CGI. Contacts add that districts that want to sustain CGI need to develop a long-term plan that includes trainings, individualized coaching, or both. Without these supports, teachers will not continue to develop instructional skills and may begin to revert from CGI practices to direct instruction.

Consider Incorporating Review Sessions into Regular CGI Trainings to Assist Resistant Teachers

Several years after initial CGI implementation, the elementary math director at **District A** polled teachers to gauge interest in a refresher course on the fundamental components of CGI. Contacts note that the director received interest from several teachers who said that they had been skeptical of CGI initially and thus did pay enough attention during initial trainings. These teachers had adopted CGI since the initial trainings and wanted an additional opportunity to learn how to apply the framework in the classroom effectively.

Offer Both Team and Individual Training Sessions to Address All Teachers' Needs

Every year, every teacher at **District B** receives two full days of professional development that focus on CGI. Internal trainers conduct the first day of trainings in groups by grade level. All teachers from one grade in one school complete the trainings together. This allows teachers to learn new techniques together. Additionally, it provides time for the trainers to discuss a unifying theme or message to the whole group. During these group sessions, teachers work with their teams to design lessons focused on a specific CGI strategy.

On the second day of trainings, individual teachers can choose two sessions to attend from a list of twelve. This choice allows teachers to receive training based on their needs and skill level. This combination of group training and individual training balances consistency and individual development. Additionally, the district only requires teachers to sign up for two trainings. If individual teachers feel they need more help in specific areas, they can sign up for additional days of professional development. Also, a group of teachers can sign up for additional days together.

Sample Day Two Training Session Topics at *District B*

Collaboration Activity

Two teachers observe each others' classes, discuss observations, and plan follow-up lessons.

Fractions 101

Teachers discuss the crucial understanding of fractions that students need and explore two problem types.

Interview Students

Teachers interview students in their classrooms. After, they discuss the interviews with other teachers.

Designing a Lesson

One instructional coach will demonstrate a lesson. After the lesson, teachers analyze student work and design problems for a similar lesson based on their analysis of the student's needs and content standards.

Hold Training Sessions Designed Specifically for New Teachers to Ensure Smooth Onboarding

At **District B** and **District D**, elementary math directors hold trainings for teachers new to the district to ensure they understand CGI. At District D, new teachers receive three days of training during the summer that focus on fundamental CGI practices and routines (e.g., how to design a lesson based on student thinking, number talks). The director also provides additional professional development to teachers who change grade levels between academic years to ensure they know all relevant tactics for their new grade level. The director conducts this training during regularly scheduled professional development times that occur every Tuesday after school.

Transition from Content-Oriented to Practice-Oriented Trainings as Teachers Become Familiar with the Principles of CGI

District leaders at **District A**, **District C**, and **District E** use the three-year CGI curriculum developed by Carpenter et. al.[6] to train teachers. At District A, contacts refer to these three years as the content phase of training. These first three years familiarize teachers with CGI instruction and the basics of how to use it in the classroom. After teachers complete this three-year curriculum, trainers transition from content-oriented to practice-oriented training sessions.

6) See this **link** for more information on Carpenter et. al.'s work on CGI.

Example Practice-Oriented Professional Development Opportunities

Two-Day Interview Practice

Teachers conduct a one-on-one CGI interview with a student. After the interview, they write two questions about the student's current work and create a math problem for the student. The next day, they interview the student again to acquire additional information on the student's mathematical knowledge. Peers observe the interviews and provide feedback during the planning process for the second interview.

Observe Problem-Solving Session and Then Plan

Groups of teachers observe a problem-solving session in a classroom. Afterwards, teachers in the group discuss observations with each other to create plans for their own problem-solving sessions. Teachers may also bring student work to the group to analyze. Together, they sort the work based on content and help the teacher develop math problems that reflect current student learning.

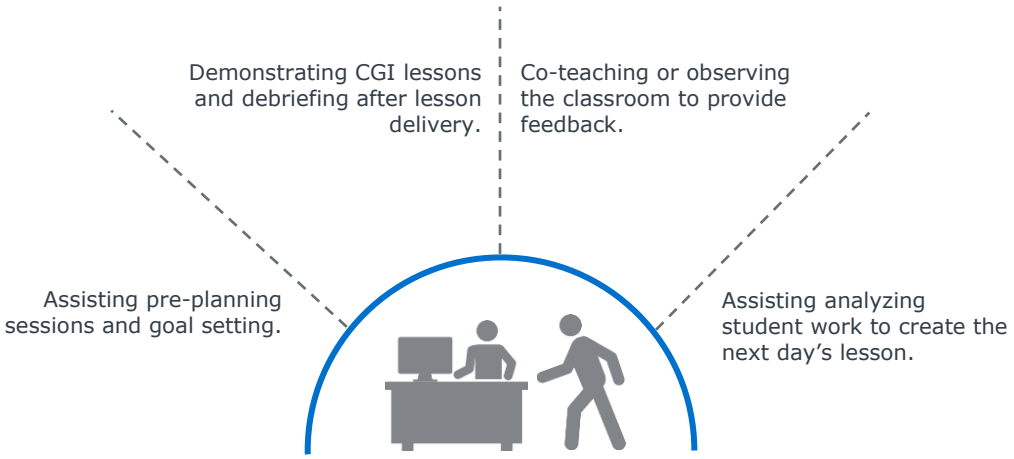
CGI Coaches

Employ CGI Coaches to Provide Personalized Support to Teachers

In addition to annual professional development sessions, all profiled districts offer teachers tailored CGI coaching. In these sessions, CGI coaches attend classroom lessons and provide teachers personalized assistance.

At **District D**, CGI coaches work with the same teacher for as long as two weeks to support the iterative nature of CGI. Because each CGI lesson is based on students' responses to the previous lesson, this continual support allows CGI coaches to help teachers respond to students' thinking.

Coaching Supports Offered to Teachers at Profiled Districts



Encourage Teachers to Engage with their Peers on CGI Between Formal Training Sessions

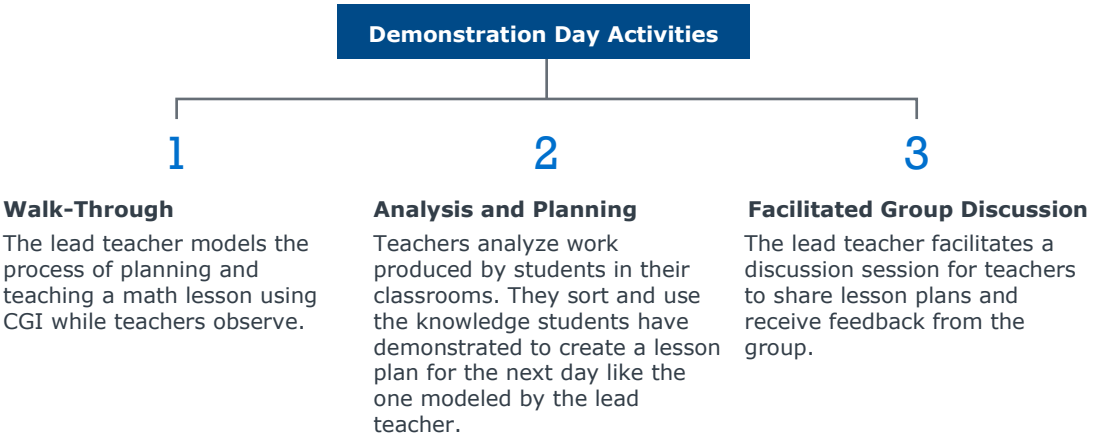
Contacts at **District C** emphasize that teachers must continue to work with CGI between formal training sessions. The elementary math director encourages teachers to try new strategies or routines with their students, so that teachers can observe directly how students react to CGI in the classroom. However, contacts report that teachers express reluctance to try strategies in their classrooms for the first time. This reluctance can result in stagnating development for teachers who only work with new strategies during formal training sessions.

To support teachers and mitigate the effects of this reluctance, the elementary math director at District C creates teams of teachers to support each other. Teachers who are interested in implementing CGI in their classrooms meet in person or virtually to share advice, collaborate on new projects, and request assistance. While these teams are optional for teachers and do not maintain a designated meeting time or agenda, contacts at District C report that this formalized support network improves teachers' understanding of CGI and the quality of their instruction.

Ask Peer Leaders to Provide Additional Training to Increase Buy-in

At all profiled districts, contacts note that teachers who express enthusiasm about CGI informally help train other teachers. These teachers also spread information about the positive effects of CGI and create buy-in among teachers for additional CGI trainings. At **District A**, the elementary math director chooses 22 lead teachers based on their enthusiasm and strong grasp of CGI techniques. These teachers receive additional training in CGI over the summer and then lead demonstration days by grade level as part of district-wide CGI training. All math teachers participate in these demonstration days.

Outline of a Demonstration Day at *District A*



Conduct Book Studies to Encourage Teacher Collaboration and Collective Learning

Because **District E** does not require CGI, the elementary math director at the district uses afterschool book studies to provide continual CGI professional development to interested teachers. These groups meet every other week. They revolve around the books written for the three-year CGI training curriculum developed by Carpenter et. al. To encourage teachers to participate, the district provides the books and offers sessions with each book twice per year. Contacts at the district note that while these books serve as the basis for discussion, teachers receive the most value from the open-ended group discussions. During these discussions, teachers can troubleshoot problems together and discuss the best ways to incorporate student knowledge into instruction.

CGI Book Study Process at *District E*

1. Teachers read the chapter individually before the meeting.
2. Teachers come together at the meeting to discuss the chapter. The elementary math director will provide a few key points to be aware of and show video clips which accompany the books.
3. Between meetings, teacher try out a CGI problem or practice discussed in the chapter read the previous week.
4. At the next meeting, teachers discuss what they learned by implementing the practice, what challenges or problems occurred, and how to support each other in this practice moving forward.

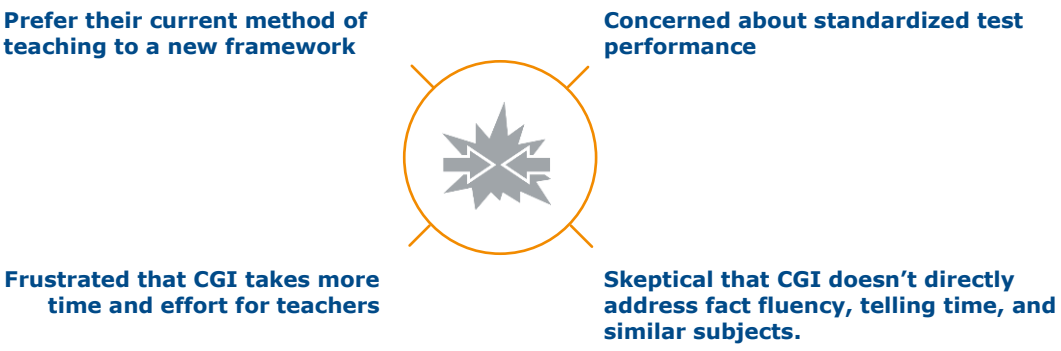
Troubleshooting Challenges

Contacts at all Profiled Districts Report Some Teacher Pushback to CGI

Contacts at all profiled districts discourage using timed tests. Contacts believe that these tests are not compatible with CGI's philosophy and may be harmful to student learning. However, contacts note that many teachers resist scaling back on timed tests.

Contacts at all profiled districts report that teachers have generally been receptive to CGI, though they add that the district has received pushback from teachers while implementing the framework. Contacts at both **District A** and **District E** believe that most resistance to CGI comes from teachers who are unwilling to put in the amount of work the framework requires. Contacts also observe resistance from teachers who are skeptical of the value of unfamiliar teaching styles. Further, contacts at District E suggest that teachers with a background in direct instruction find the adaption to CGI hardest, because the framework does not align with their teaching philosophy.

Common Pushbacks from Teachers at Profiled Districts



Teach Fact Fluency through Games, Assessments, and Integration into Word Problems

Because CGI focuses on learning concepts rather than on remembering facts, fact fluency is frequently cited by teachers as an area of concern with CGI. However, contacts at all profiled districts report that teachers can overcome common challenges instructing fact fluency with CGI. Contacts at **District C** note that students who memorize times tables often express hesitation when exposed to a problem they have not seen before. However, contacts state that students who learn multiplication with CGI acquire strategies that allow them to attempt even unfamiliar problems. Contacts at all profiled districts also note that fact fluency is incorporated organically into CGI problems. Teachers present problems to students that include facts required by the state standards as part of their daily instruction. As students learn the strategies to solve these problems, they also learn the facts these problems include.

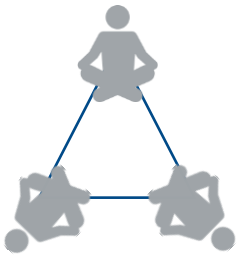
To assist with fact fluency, teachers at **District A** and **District B** administer fact fluency assessments. At District A, teachers hold one-on-one interviews with students to assess fact fluency at least once per year. Teachers use the results of these assessments to design future classes to address any missing knowledge. Teachers can easily tailor problem-solving exercises in class to address the areas where students need to improve their fact fluency.

The elementary math director at **District D** develops games to help teachers improve fact fluency among their students.

Fact Fluency Game at *District D*

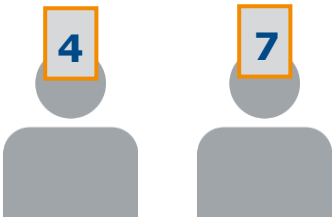
"Salute"

1 Arrange groups of three students into a triangle.



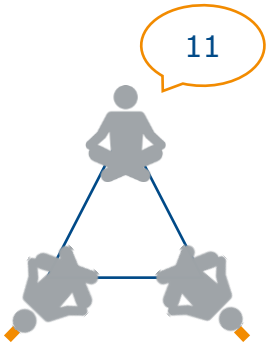
The student at the top of the triangle has a deck of numbered cards and passes a card, face down, to the other two students.

2 Students place the cards on their foreheads



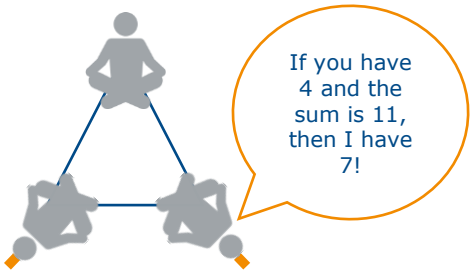
The two students with the cards "salute" with the cards. They place them face up on their foreheads, so they cannot see the card, but the other students can.

3 The student at the top finds the sum of the cards.



The student at the top of the triangle finds the sum of the cards on the other two students' foreheads. They then call out the sum to the others.

4 The two students with cards find their card value.



The two students with the cards use the sum and the other student's card to calculate the value of their own. When they finish, they switch places and begin a new round.

Reference Math Standards to Create Lessons with CGI that Teach Necessary Skills

Contacts report that in addition to fact fluency, teachers find difficulty teaching subject such as telling time, using a ruler, place values, and rounding with CGI. At both **District C** and **District E**, contacts report that teachers may revert to direct instruction for these areas. However, they note that it is possible to teach these skills with CGI if teachers start from their math standards and use CGI to create problems that include these skills. Contacts at **District D** also suggest using open-ended games to teach concepts such as telling time.

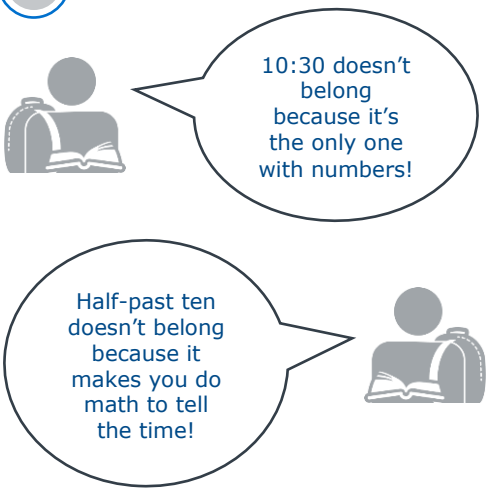
Teaching Time Under a CGI Framework

"What Doesn't Belong?"

Goal: To show students different ways to display time. Students should understand that there are no wrong answers.

1. Create a grid with four different ways to represent a time

2. Have students suggest which option doesn't belong



5) Research Methodology

Project Challenge

Leadership at a member district approached the Forum with the following questions:

- Which components of CGI improve students' academic performance?
- Which components of CGI improve student and teacher attitudes toward mathematical instruction?
- What are the short-term and long-term impacts of CGI on student achievement and attitudes?
- Is CGI the primary model of mathematical instruction at contact districts?
- What other instructional models, if any, do contact districts use?
- What resources or professional development opportunities did contact districts offer to prepare teachers to implement CGI effectively in the classroom?
- How do contact districts ensure continued, effective use of CGI after implementation?
- What mathematical skills or concepts are difficult to teach using CGI?
- How do contact districts assess student progress under CGI?
- How does CGI impact standardized test performance at contact districts?

Project Sources

The Forum consulted the following sources for this report:

- EAB's internal and online research libraries (eab.com)
- National Center for Education Statistics (NCES) (http://nces.ed.gov/)
- Fennema, Elizabeth, et al. "A Longitudinal Study of Learning to Use Children's Thinking in Mathematics Instruction." *Journal for Research in Mathematics Education* 27, no. 4 (1996): 403–34. https://doi.org/10.2307/749875.
- Moscardini, Lio. "Developing Equitable Elementary Mathematics Classrooms through Teachers Learning about Children's Mathematical Thinking: Cognitively Guided Instruction as an Inclusive Pedagogy." *Teaching and Teacher Education* 43 (October 1, 2014): 69–79. https://doi.org/10.1016/j.tate.2014.06.003.
- Sahin, Nesrin. "The Effect of Cognitively Guided Instruction on Students' Problem Solving Strategies and The Effect of Students' Use of Strategies on their Mathematics Achievement." *Electronic Theses and Dissertations*, 2015. http://stars.library.ucf.edu/etd/1303.

Research Parameters

The Forum interviewed district-level personnel responsible for mathematics curriculum at the elementary level.

A Guide to Districts Profiled in this Brief

District	Location	Approximate Number of Students
District A	Pacific West	22,500
District B	Pacific West	4,500
District C	South	25,000
District D	Pacific West	7,000
District E	Pacific West	4,500